

Name : **NAVEEN KUMAR VODNALA**

Designation: Assistant Professor

Department: Electronics & Communication Engineering

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Experience (in years): Teaching: 10 Research: 03 others (If any, Specify):



### 1. Educational / Technical qualifications:

S.No	Level (UG / PG / Ph.D)	Year of passing	Specialization
1	Ph.D	Pursuing	Signal Processing
2	M.Tech	2009	Embedded Systems
3	B. Tech	2004	Electronics & Communication Engineering

### 2. Teaching and Learning:

2.1. Teaching Interests: Wireless Sensors networks, Embedded systems, microcontrollers and processors, system on chips, RF communication, signal processing, BioMedical instrumentation, Computer Organization

2.2. Novel Teaching & Learning Techniques adopted: Active learning methods like POGIL, WIT & WIL, Lab protocol, project based learning, group tasks, discussion forums etc.

2.3. Involvement in curriculum updating / Design: --

### 3. Co-curricular and Extra-Curricular Activities

#### 3.1 Interests and Hobbies

- Interest in Teaching and Research, Reading books, watching movies, Cooking, playing outdoor games – cricket, volleyball.

#### 3.2 CCA/ECA Organized

- Poster presentation at Research and consultancy center in Convergence
- R&D showcase at VNVJIET
- Show & Tell from RCC.
- M.Tech project review panel member
- B.Tech project review panel member

#### 3.3 CCA/ECA Involved

- Involved and helped students in
- Tech fests like project expo
- Texas Instruments project Competitions
- Freescale project Competitions

#### 3.4 Counseling and Mentoring Activity

- Mentoring students to choose emerging domains and aware them opportunities in their interested field (in project duration)
- Counseled many students for pursue higher studies to overcome their learning inhabitations.

#### 3.5. Monitoring Activities (anti-ragging, general discipline)

#### 3.6. Member Disciplinary Committee at VNRVJIET.

#### 3.7. Member of committee at VNRVJIET: (BOS) --

### 4. Conference / Workshop / Seminar / Guest Lectures:

#### 4.1 Conducted

- An IEEE SPS Seasonal School on “Recent advances in Artificial Intelligence for Signal Processing” is conducted from 28th December-31st December 2021.
- ITRA sponsored workshop “Biomedical signal processing & its applications”, 13 th – 16 th December 2016 at

- ITRA sponsored workshop “Acoustic Signal Analysis for Health Care”, 29<sup>th</sup> - 31<sup>st</sup> October 2015
- Organized a two days TEQIP Sponsored workshop on “PCB designing of electronic circuits” in VNR Vignana Jyothi Institute of Engineering & Technology, Hyderabad from 22<sup>nd</sup> & 23<sup>rd</sup> FEB 2013
- Organized a Three Day Work Shop On “Embedded Processors and Systems” from 8-10<sup>th</sup> June 2010 at VNTVJIET.
- Workshop on “Wireless Sensor Node Design”, 9-10<sup>th</sup> Feb 2015 at VNTVJIET.

#### 4.2 Attended

- ATAL-FDP on Industrial Internet of Things (IIoT) from 7-11 June, 2021
- ATAL-FDP on Wearable Devices from 01-02-2021 to 05-02-2021
- IEEE SPS Summer School on Internet of Things for Biomedical and Healthcare Applications 28<sup>th</sup> December-31<sup>st</sup> December 2020
- Basics of Python PDP on VNR IEEE SB and IEEE SPS from 09<sup>th</sup> - 13<sup>th</sup> November 2020
- AICTE Training And Learning (ATAL) Academy Online FDP on "Artificial Intelligence" from 27-04-2020 to 01-05-2020 at MSME - TECHNOLOGY DEVELOPMENT CENTRE (PPDC) Meerut.
- UGC sponsored Refresher Course “Systems and Signal Processing” conducted by JNTUH. 06-03-2019 to 27-03-2019.
- Workshop on “IoT & Drones” conducted by lead India. 26-01-2019 to 27-01-2019
- FDP201x, “Pedagogy for Online and Blender Teaching-Learning Process” conducted by IITB. 30-10-2018 to 13-12-2018.
- FDP101x, “Foundation program in ICT for Education” conducted by IITB. 13-09-2018 to 18-10-2018.
- Refresher Course on “Systems and Signal Processing” organized by UGC-HRDC and JNTUH in March 2019
- Foundation Program in ICT for Education FDP101x and FDP 201x conducted by IIT BOMBAY in 2018-19
- Mathworks Training of the Faculty Development Program "Signal Processing with Simulink". On 23<sup>rd</sup>, 24<sup>th</sup> & 25<sup>th</sup> January 2018
- Workshop on ‘Innovative ICT Initiatives for Rural Development’ on September 1, 2017
- FDP on “Recent Trends in Signal Processing and Its Applications” conducted by NITW 22<sup>nd</sup> June to 1<sup>st</sup> July, 2017
- Mathworks Training program on “DSP for FPGAs” 19-Jun-2017 to 21-Jun-2017
- Four day “Winter School on Speech and Audio Processing” IIITH, 17<sup>th</sup> – 20<sup>th</sup> January 2014.
- Two week training program “Digital Image Processing of remotely Sensed Data”, in JNTUH, sponsored by NRDMS, DST, Ministry of Sc & Tech, Govt of Ind from 16<sup>th</sup> – 28<sup>th</sup> Sept, 2013
- A two days TEQIP Sponsored workshop on “Skill upgradation on open Source Platform(Linux)” in VNR Vignana Jyothi Institute of Engineering & Technology, Hyderabad from 17<sup>th</sup> & 18<sup>th</sup> MAY 2013.
- TEQIP-II Sponsored Faculty Development Program on “Analog System Design using TI ASLKV2010” in VNR Vignana Jyothi Institute of Engineering & Technology, Hyderabad from 14-16<sup>th</sup> FEB 2013.

- International conference on Navigation and Communication ‘NAVCOM-2012’ on December 20th and 21st, Dec 2012 organized by NERTU, DRDO, OU.
- Faculty development program on "WISP-2012" by IIIT, Hyderabad.

#### 5. Academic Contribution and Research & Consultancy:

5.1. Invited Lectures:

5.2. Articles/Chapters published in Books:

5.3. Books published as single author or as editor:

5.4. Projects Guided:

a) UG: 28                      b) PG: 11

5.5. Research Interests: Embedded systems, Microprocessors & controllers WSN, Signal processing

5.6. Ph.D students:

5.7. Papers published in reviewed Journals:

S.No	Title of the Paper	Title of the journal	ISBN/ISSN No.	Volume & Issue	Indexed In SCOPUS (or) Web Of Science (or) Google Scholar
1.	Recognition and analysis of asthma disease based on cough Sound	Journal Of Northeastern University	ISSN: 1005-3026	Volume 25 Issue 04, 2022	SCOPUS
2.	Respiratory Disease Classification Based on Vowel Sounds	Neuroquantology	ISSN: 1303-5150	november 2022, volume 20, issue 15	SCOPUS
3.	Implementation of Wi-Fi energy efficient wireless media transmission	Materials Today: Proceedings	ISSN: 2214-7853	24 May 2021	SCOPUS, ELSEVIER Science Direct
4.	Cough sound analysis and objective correlation with spirometry and clinical diagnosis	Informatics in Medicine Unlocked	ISSN: 23529148	19 March 2020	SCOPUS, Science Direct
5.	Real Time Traffic Signs and Obstacle Detection in Self-Driving Car	International Journal of Innovative Technology and Exploring Engineering	ISSN: 2278-3075,	Volume-9 Issue-6, April 2020	SCOPUS
6.	Expert system using artificial neural network For chronic respiratory diseases	International Journal Of Current Engineering And Scientific Research	ISSN (PRINT): 2393-8374, (ONLINE): 2394-0697,	VOLUME-4, ISSUE-9, 2017	UGC listed
7.	Design and Implementation of Silent	International journal of advanced	ISSN: 2320 – 3765	Vol. 4, Issue 3, March	SCOPUS

	Pause Stuttered Speech Recognition System	research in electrical, electronics and instrumentation engineering		2015	
8.	Design and Development of accelerometer based System for driver safety	International journal of science, engineering and technology research	ISSN: 2278 – 7798	Volume 3, Issue 12, December 2014	Google Scholar
9.	Design and Development of Gyroscope Based Vehicle Movement Pattern Recognition System	International journal of science and research	ISSN: 2319-7064	Volume 3 Issue 12, December 2014	Google Scholar
10.	Hand gesture recognition using accelerometer	International journal of electrical electronics and communication	ISSN: 2048 – 1068	Volume: 05 issue: 30 1 sep -2014	Google scholar
11.	On-Board Camera Based on Pedestrian Detection system	International journal of advanced research in electrical, Electronics and instrumentation engineering	ISSN: 2320 – 3765	Vol. 4, Issue 3, March 2015	SCOPUS
12.	Development of Telugu Text To Speech System On OMAP 3530	International Journal of Research in Information Technology	ISSN: 2001-5569	Volume 1, Issue 12, December, 2013	SCOPUS and Google Scholar
13.	Driver Alert System Using Accelerometer and MSP430	International Journal For Advance Research In Engineering And Technology	ISSN: 2320-6802	Vol. 1, Issue IX, Oct.2013	Google Scholar
14.	Emotion Recognition from Speech Using Embedded Board OMAP 3530	International Journal For Advance Research In Engineering And Technology	ISSN: 2320-6802	Vol. 1, Issue IX, Oct.2013	Google Scholar
15.	Design and Implementation of an Efficient Water Quality and Quantity Monitoring System	International Journal of Software and Hardware Research in Engineering	ISSN: 2347-4890	Vol. 1, Issue 4, Dec.2013	Google Scholar
16.	Design and Implementation of Sensor's Information Monitoring System Using Wireless Sensor Network	International Journal of Research in Information Technology	ISSN 2001-5569	Volume 1, Issue 11, November, 2013	Google Scholar

5.8. Papers presented at National / International Conferences:

<b>S. No</b>	<b>Title of the Paper</b>	<b>Title of the Conference Paper</b>	<b>ISBN/ISS N No</b>	<b>Date of Conference:</b>
1.	Analysis of Emotions from Speech using Hybrid Deep Learning Network Models	International Conference on Futuristic Technologies	ISBN:978-1-6654-5047-8	Nov 25-27, 2022
2.	A deep learning approach lung segmentation and Pneumonia detection from x-rays	International Conference on Recent Trends in Microelectronics, Automation, Computing and Communications Systems (ICMAAC)	ISBN:978-1-6654-9605-6	28-30 December 2022
3.	Deep Learning Strategy Of Detecting Diabetic Retinopathy	3rd International Conference On Engineering And Advancement In Technology (ICEAT 2022)		7 <sup>th</sup> – 8 <sup>th</sup> July, 2022
4.	Early Diagnosis of Pulmonary Diseases using Wheeze Sound Analysis	Advance Computing Conference (IACC 2017)	ISSN: 24 73-3571	5th -7th Jan. 2017
5.	Analysis of Cough Sounds for Diagnosis of Respiratory Diseases	Advance Computing Conference (IACC 2017)	ISSN: 24 73-3571	5th -7th Jan. 2017
6.	Street Light Data Acquisition Using VLSI Based Object recognition	IEEE International Conference on Computational Intelligence and Computing Research	ISSN: 247 3-943X	15th -17th Dec. 2016
7.	Cough classification tool for early detection and recovery monitoring of tuberculosis and asthma	4th International Conference on Computing, communication and sensor Network (CCSN-2015)	ISBN:81-85824-46-0	24th-25th Dec 2015
8.	Implementation of speech based stress level monitoring system	4th International Conference on Computing, communication and sensor Network (CCSN-2015)	ISBN:81-85824-46-0	24th-25th Dec 2015
9.	Development of Telugu Text To	IT Convergence and Security (ICITCS- 2013 )	ISBN: 978-1-4799-	16-18 Dec.

	Speech System On OMAP 3530		2845-3	2013
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#### 5.9. Sponsored research Projects:

S.No	Title	Agency	Period	Grant amount	Ongoing / Completed
1.	Design and Development of Prototype for Secure Weapon Shooting Information System (SWSIS)	ARDE(DRDO)	15-05-2020 to 01-04-2022	Rs.9,96,000/-	Completed
2.	Feasibility Study of Weapon Locking and Tracking System(WLTS)	ARDE (DRDO),	15-07-2014 to 15-09-2015	Rs.9,90,000/-	Completed
3.	Virtual assistant for mobile devices using voice and gesture	ITRA Media Asia Labs, NewDelhi	20-09-2013 to 20-09-2016	Rs.18,40,000/-	Completed
4.	A wireless system to reliably control a large number of street lights from central station	X_Design Ventures Pvt. Ltd, Hyderabad	18-07-2011 to 18-12-2013	Rs.6,00,,000/-	Completed
5.	Automated Commando Training System	Greyhounds, Hyderabad	18-06-2009 to 18-06-2012	Rs.6,80,000/-	Completed
6.	Mobile Image Position and Performance Acquisition System	X_Design Ventures Pvt. Ltd, Hyderabad	18-07-2011 to 18-12-2013	Rs.15,00,000/-	Completed
7.	An Intelligent and institutive signaling system to minimize road accidents	Drivelozics Pvt. Ltd, Hyderabad	18-07-2011 to 18-12-201	Rs.7,00,,000/-	Completed

#### 5.10 Consultancy Projects:

S.No	Title	Agency	Period	Sanctioned Amount	Ongoing / Completed
1.	Frequency band analysis of acoustic signals for health care	Salcit Technology Pvt. Ltd.	01-04-2021 to till date	Rs.10,00,000/-	Completed
2.	“ROI Booster”	Mira Consulting Inc Sdn Bhd, Kuala Lumpur, Malaysia,	Phase-I:16-3-2014 to 14-05-2015.	Rs.7,80,000/-	Completed
3.	Automated Commando Training System	National Police Academy, Hyderabad	18-06-2011to 18-06-2012	Rs.24,50,,000/-	Completed

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**6. Awards / Honours received:**

- Completed NPTEL course titled “Introduction to Machine Learning”
- Have three granted patents and two are in examin state
- Qualified UGC NET
- Established start up Salcit Technologies Pvt Ltd

**PATENTS (3-Granted & 2- Examined):**

- **Granted patents –**
  - An Intelligent and institutive signaling system to minimize road accidents - Granted Application, Patent Number:362271 Date of Date Of Certificate Issue: 20/03/2021
  - A System For Analyzing Risk Associated With Cough Sounds – Granted Application with No.201741045066A, Patent Number:308156 Date of Date Of Certificate Issue: 27/02/2019
  - a wire-less system to reliably control a large network of street lighting systems from a central location through fm broadcast – Patent No. 411012, granted on 07/11/2022
- A Patent Application is in Examined amendment state
  - AI and IOT based miniature circuit breaker - ApplicationNo.: 202241052573
  - Security System For Women Safetyand Real-Time Monitoring – Application No.: 202341018492
- The ideas “Cough and Wheeze Analyzer Tool” is selected for Seoul international invention Fair-2016.
- Received Silver Medal for our project Cough and Wheeze Analyze at Innovators Association, AP & Innovation Society and International Innovation Fair Association held at Vishakhapatnam
- Bronze medal from China Association of Inventions the innovation ` Cough and wheeze analyzer for respiratory digital health services'
- Mentor for “TCS Remote internship Program”

**7. Motto:** All power is with in you; you can do anything and everything, believe in that.